PF020073

OENTRAL PAX CENTER
MAR 1 7 2009

Listing and Amendments to the Claims

Please **amend** claims 1-4, 6-7, 10-12, 16, 19, 21, 23-25, and 27-35 as indicated. Please **cancel** claim 15. Please **add** new claims 37-56.

 (Currently Amended) Coplanar-discharge electrode plate for defining discharge regions in a plasma display panel, which comprises: at least a first and a second array of coplanar electrodes that are coated with a dielectric layer and the general directions of which are parallel, where each electrode of the first array is adjacent to an electrode of

the second array, is paired with it and is intended to supply a set of discharge

regions;

for each discharge region, at least two electrode elements that have a common longitudinal axis of symmetry Ox, each connected to an electrode of a pair,

wherein, for each electrode element of each discharge region, the point O on the Ox axis being located on what is called an ignition edge of the said electrode element facing the other electrode element of the said discharge region and the Ox axis being directed towards what is called an end-of-discharge edge that delimits the said electrode element on the opposite side from the said discharge edge and is positioned at $x = x_{cd}$ on the Ox axis, the shape of the said electrode element and the thickness and composition of the said dielectric layer are adapted so that there is an interval $[x_{ab}, x_{bc}]$ of values of x such that x_{bc} - x_{ab} > 0.25 x_{cd} , x_{ab} < 0.33 x_{cd} and x_{bc} > 0.55 x_{cd} and such that the surface potential V(x) increases as a function of x in a continuous or discontinuous manner, without a decreasing part, from a value V_{ab} to a higher value V_{bc} within the said $[x_{ab}, x_{bc}]$ interval when a constant potential difference is applied between the two electrodes supplying the said discharge region, having the appropriate sign so that the said electrode element (4) acts as cathode.

2. (Currently Amended) Coplanar electrode plate according to Claim 1, wherein, defining the normalized surface potential $V_{norm}(x)$ as the ratio of the surface potential V(x) at a level x of the dielectric layer for the electrode element in question to the maximum potential V_{0-max} that would be obtained along the Ox axis for an electrode element of infinite width, $V_{norm}(x')$ - $V_{norm}(x) > 0.001$ whatever x and x' are, chosen between X_{ab} and X_{bc} , such that $x'-x = 10 \ \mu m$.

3. (Currently Amended) Coplanar electrode plate according to Claim 1 wherein; defining the normalized surface potential $V_{norm}(x)$ as the ratio of the surface potential V(x) at a level x of the dielectric layer for the electrode element in question to the maximum potential V_{0-max} that would be obtained along the Ox axis for an electrode element of infinite width, the normalized surface potential $V_{norm}(x)$ increasing from a value of $V_{n-ab} = V_{ab}/V_{0-max}$ at the start $(x = x_{ab})$ of the said interval to a value of $V_{n-bc} = V_{bb}/V_{0-max}$ at the end $(x = x_{bc})$ of the said interval, then:

 $V_{n-bc} > V_{n-ab}$, $V_{n-ab} > 0.9$, and $(V_{n-bc} - V_{n-ab}) < 0.1$.

- 4. (Currently Amended) Coplanar electrode plate according to claim 1, wherein; under the same conditions of application of the potential difference between the said electrodes, the maximum potential in the surface region of the dielectric layer that covers the said electrode element and is bounded by the said end-of-discharge edge where $x = x_{cd}$ and the position $x = x_{bc}$ is strictly greater than the maximum potential of the surface region of the dielectric layer that covers the said electrode element and is bounded by the said ignition edge where x = 0 and the position $x = x_{ab}$.
- 5. (Previously Presented) Plasma display panel, wherein it is provided with a coplanar electrode plate according to claim 1.

6. (Currently Amended) Coplanar electrode plate according to elaim 1, wherein, for defining discharge regions in a plasma display panel, which comprises:

at least a first and a second array of coplanar electrodes that are coated with a dielectric layer and the general directions of which are parallel, where each electrode of the first array is adjacent to an electrode of the second array, is paired with it and supply a set of discharge regions;

for each discharge region, at least two electrode elements that have a common longitudinal axis of symmetry Ox, each connected to an electrode of a pair,

wherein for each electrode element of each discharge region, the point O on the Ox axis being located on what is called an ignition edge of the electrode element facing the other electrode element of the discharge region and the Ox axis being directed towards what is called an end-of-discharge edge that delimits the electrode element on the opposite side from the discharge edge and is positioned at $x = x_{cd}$ on the Ox axis.

defining the specific longitudinal capacitance C(x) of the dielectric layer as the capacitance of a straight elementary strip of this layer, bounded between the eaid electrode element (4) and the surface of the dielectric layer, positioned at x on the Ox axis, having a length dx along this Ox axis and a width corresponding to that of the electrode element delimiting the eaid elementary strip, in order to achieve the eaid increase in surface potential, the shape of the electrode element and the thickness and composition of the dielectric layer are adapted so that there is an interval $[x_{ab}, x_{bc}]$ of values of x such that $x_{bc}-x_{ab} > 0.25x_{cd}$, $x_{ab} < 0.33x_{cd}$ and $x_{bc} > 0.5x_{cd}$ and such that this specific longitudinal capacitance C(x) of the dielectric layer increases continuously or discontinuously, without a decreasing part, from a value of C_{ab} at the start $(x = x_{ab})$ of the said interval to a value of C_{bc} at the end $(x = x_{bc})$ of the said interval.

7. (Currently Amended) Coplanar electrode plate according to Claim 6, wherein the capacitance of the dielectric layer portion that lies between the said electrode element and the surface of this layer and is bounded by the said end-of-discharge edge where $x = x_{cd}$ and the position $x = x_{bc}$ is strictly greater than the capacitance of the dielectric layer portion that lies between the said electrode element and the surface of this layer and is bounded by the said ignition edge where x = 0 and the position $x = x_{ab}$.

- 8. (Previously Presented) Coplanar electrode plate according to Claim 7, wherein the specific longitudinal capacitance of the dielectric layer in the region lying between $x = x_{bc}$ and $x = x_{cd}$ is greater than the specific longitudinal capacitance of the dielectric layer at any other position x such that $0 < x < x_{bc}$.
- 9. (Previously Presented) Plasma display panel, wherein it is provided with a coplanar electrode plate according to claim 6.
- 10. (Currently Amended) Plasma display panel comprising a coplanar electrode plate according to claim-1 for defining discharge regions, which comprises at least a first and a second array of coplanar electrodes which are coated with a dielectric layer and the general directions of which are parallel, where each electrode of the first array is adjacent to an electrode of the second array, is paired with it and supply a set of discharge regions; and

what is called an address electrode plate optionally comprising an array of address electrodes (X) that are coated with a dielectric layer and are oriented and positioned so that each crosses a pair of electrodes of the coplanar electrode plate in one of the said discharge regions, these electrode plates defining between them the said discharge regions and being separated by a distance H_o expressed in microns, and

for each discharge region, at least two electrode elements
that have a common longitudinal axis of symmetry Ox, each connected to an
electrode of a pair.

wherein, for each discharge region of the said display panel and for each electrode element of this the discharge region, the point O on the Ox axis being located on what is called an ignition edge of the electrode element facing the other electrode element of the discharge region and the Ox axis being directed towards what is called an end-of-discharge edge that delimits the electrode element on the opposite side from the discharge edge and is positioned at $x = x_{cd}$ on the Ox axis, the shape of the electrode element,

letting E1(x) be the mean thickness expressed in microns and P1(x) be the mean relative permittivity of the dielectric layer above the said electrode element at the longitudinal position x and letting E2(x) be the mean thickness expressed in microns and P2(x) be the mean relative permittivity of the dielectric layer above the said address electrode (X), or that of the address electrode plate in the absence of the address electrode, the thickness and the permittivity both again being measured at the longitudinal position x located on an axis which lies on the surface of the address electrode plate and is parallel to the Ox axis and lying in a plane normal to the surface of the said coplanar electrode plate,

the thickness and the composition of those layers this dielectric layer are adapted so that there is an interval $[x_{ab}, x_{bc}]$ of values of x such that $x_{bc}-x_{ab}>0.25x_{cd}$, $x_{ab}<0.33x_{cd}$ and $x_{bc}>0.5x_{cd}$ and so that the ratio $R(x)=1-[E_{1(x)}/P_{1(x)}]/[E_{1(x)}/P_{1(x)}+H_c+E_{2(x)}/P_{2(x)}]$ increases continuously or discontinuously, without a decreasing part, from a value of R_{ab} at the start (x = x_{ab}) of the said interval to a value R_{bc} at the end (x = x_{bc}) of the said interval.

- 11. (Currently Amended) Plasma display panel according to Claim 10, wherein the width $W_e(x)$ of the said electrode element is constant within the said range of x values.
- 12. (Currently Amended) Plasma display panel according to Claim 11, wherein R(x')-R(x) > 0.001 whatever x and x' are, chosen between x_{ab} and x_{bc} , such that $x'-x=10 \mu m$.

13. (Previously Presented) Plasma display panel according to Claim 12, wherein $R_{bc} > R_{ab}$, $R_{ab} > 0.9$, and $(R_{bc} - R_{ab}) < 0.1$.

- 14. (Previously Presented) Plasma display panel according to claim 11, wherein the values of R(x) for any x such that $x_{bc} < x < x_{cd}$ are strictly greater than the values of R(x) for any x such that $0 < x < x_{ab}$.
 - 15. (Cancelled).
- 16. (Currently Amended) Coplanar electrode plate according to elaim 6, for defining discharge regions in a plasma display panel, which comprises:

at least a first and a second array of coplanar electrodes that are coated with a dielectric layer and the general directions of which are parallel, where each electrode of the first array is adjacent to an electrode of the second array, is paired with it and supply a set of discharge regions;

for each discharge region, at least two electrode elements that have a common longitudinal axis of symmetry Ox, each connected to an electrode of a pair.

wherein, for each electrode element of each discharge region, the point O on the Ox axis being located on what is called an ignition edge of the electrode element facing the other electrode element of the discharge region and the Ox axis being directed towards what is called an end-of-discharge edge that delimits the electrode element on the opposite side from the discharge edge and is positioned at $x = x_{ed}$ on the Ox axis,

wherein, for each electrode element of each discharge region, the said dielectric layer has a constant dielectric constant P1 and a constant thickness E1 expressed in microns above the said electrode element, at least for any x such that $x_{ab} < x < x_{bc}$, and in which, with the following definitions:

the normalized surface potential $V_{norm}(x)$, defined as the ratio of the surface potential V(x) at a level x of the dielectric layer for the electrode element in question to the maximum potential V_{0-max} that would be obtained

along the Ox axis for an electrode element of infinite width, the normalized surface potential $V_{norm}(x)$ then increasing from a value of $V_{n-ab} = V_{ab}/V_{0-max}$ at the start $(x = x_{ab})$ of the said interval to a value of $V_{n-bc} = V_{bc}/V_{0-max}$ at the end $(x = x_{bc})$ of the said interval;

an ideal width profile of this <u>electrode</u> element, defined by the equation:

$$W_{e-id-0}(x) = W_{e-ab} \exp \{29 \sqrt{(P1 / E1)} (x-x_{ab}) \times (V_{n-bc}-V_{n-ab})/(x_{bc}-x_{ab})\}$$

where W_{e-ab} is the total width of the said electrode element, measured at $x = x_{ab}$ perpendicular to the Ox axis; and

a lower limit profile $W_{\text{e-id-low}}$ and an upper limit profile $W_{\text{e-id-up}}$, defined by the equations:

$$W_{e-kd-low} = 0.85W_{e-kd-0}$$
 and $W_{e-kd-up} = 1.15W_{e-kd-0}$,

then, for any x between x_{ab} and x_{bc} inclusive, the total width $W_e(x)$ of the said electrode element, measured at x perpendicular to the Ox axis, is such that:

$$W_{e-id-iow}(x) < W_e(x) < W_{e-id-up}(x)$$

- 17. (Previously Presented) Coplanar electrode plate according to Claim 16, wherein the width $W_{\theta-ab}$ is less than or equal to 80 μm .
- 18. (Previously Presented) Coplanar electrode plate according to Claim 17, wherein the width W_{e-ab} is less than or equal to 50 μm .
- 19. (Currently Amended) Coplanar electrode plate according to claim 16, wherein the said electrode element is subdivided into two lateral conducting elements that are symmetrical with respect to the Ox axis and are separate at least in the region where x lies within the $[x_{ab},x_{b3}]$ interval where $x_{b3}-x_{ab} > 0.7(x_{bc}-x_{ab})$.

PF020073

- 20. (Previously Presented) Coplanar electrode plate according to Claim 19, wherein $x_{b3} = x_{bc}$.
- 21. (Currently Amended) Coplanar electrode plate according to Claim 19 wherein, if Oy is an axis transverse to the Ox axis lying along the ignition edge and letting $d_{e-p}(x)$ be the distance, measured parallel to the Oy axis at any position x lying between x_{ab} and x_{bc} , between the edges turned towards each other of these two lateral conducting elements, a value $x = x_{b2}$ lying between x_{ab} and x_{b3} exists such that $d_{e-p}(x) > d_{e-p}(x_{ab})$ for any value of x lying between x_{ab} and x_{b2} .
- 22. (Previously Presented) Coplanar electrode plate according to Claim 21, wherein $d_{ep}(x_{ab})$ lies between 100 μm and 200 μm .
- 23. (Currently Amended) Coplanar electrode plate according to Claim 22, wherein, considering the mean line of each lateral conducting element traced, for a given position x, at mid-distance between the lateral edges of this lateral element, in the region where $x_{ab} < x < x_{b2}$, the tangent at x to the mean line of this element makes an angle of less than 60° with the Ox axis.
- 24. (Currently Amended) Coplanar electrode plate according to Claim 23, wherein the said angle lies between 30° and 45°.
- 25. (Currently Amended) Coplanar electrode plate according to claim 19, wherein; if Oy is an axis transverse to the Ox axis lying along the ignition edge and letting $d_{e-p}(x_{ab})$ be the distance, measured parallel to the Oy axis at a position $x = x_{ab}$ between the edges turned towards each other of the two lateral conducting elements, the said electrode element comprises a transverse bar called an ignition bar which connects the said lateral conducting elements, one edge of which corresponds to the said ignition edge, and the length of which, measured along the Ox axis, is greater by a

PF020073

value ΔL_a for |y| lying between 0 and y_1 on either side of the Ox axis than a value L_a of this length for |y| lying between y_1 and $d_{e-p}(x_{ab})/2$ on either side of the Ox axis.

- 26. (Previously Presented) Plasma display panel, wherein it is provided with a coplanar electrode plate according to claim 16.
- 27. (Currently Amended) Plasma display panel comprising a coplanar electrode plate according to claim 1 and an address electrode plate defining discharge regions between them and being separated by a distance H_c, the coplanar electrode plate comprising:

at least a first and a second array of coplanar electrodes that are coated with a dielectric layer and the general directions of which are parallel, where each electrode of the first array is adjacent to an electrode of the second array, is paired with it and supply a set of discharge regions;

for each discharge region, at least two electrode elements that have a common longitudinal axis of symmetry Ox, each connected to an electrode of a pair, the address electrode plate comprising:

an array of address electrodes that are coated with a dielectric layer and are oriented and positioned so that each crosses a pair of electrodes of the coplanar electrode plate in one of the said discharge regions;

an array of parallel barrier ribs, each being placed between two adjacent address electrodes at a distance W_c from two other adjacent barrier ribs, and for each electrode element of each discharge region, the point O on the Ox axis being located on what is called an ignition edge of the electrode element facing the other electrode element of the discharge region and the Ox axis being directed towards what is called an end-of-discharge edge that delimits the electrode element on the opposite side from the discharge edge and is positioned at $x = x_{cd}$ on the Ox axis, these electrode plates defining between them the said discharge regions and being separated by a distance H_{ct}

wherein the said dielectric layer has a homogeneous composition and a constant thickness above the said electrode element, at least for any x such that $x_{ab} < x < x_{bc}$, and in that wherein, for each discharge region of the said display panel and for each electrode element of this discharge region, the said electrode element is subdivided into two lateral conducting elements of constant width Webo that are symmetrical with respect to the Ox axis and are separate in the region where x lies within the [xab, xbc] interval, and in that, if Oy is an axis transverse to the Ox axis lying along the ignition edge and letting $d_{e-p}(x)$ be the distance, measured parallel to the Oy axis at any position x lying between x_{ab} and x_{bc} , between the edges turned towards each other of these two lateral conducting elements, $d_{e-p}(x)$ increases in a continuous or discontinuous manner as a function of x in the said [xab, xbc] interval, and in that wherein, considering the mean line of each lateral conducting element traced, for a given position x, at mid-distance between the lateral edges of this lateral conducting element, in the region where $x_{ab} < x < x_{bc}$, the tangent at x to the mean line of this element makes an angle of between 20° and 40° with the Ox axis, and in that $d_{e-p}(x_{ab}) \le 350 \mu m$.

- 28. (Currently Amended) Plasma display panel according to Claim 27, wherein 200 μ m \leq d_{e-p}(x_{ab}) \leq 350 μ m and in that the eaid electrode element comprises a transverse bar called an ignition bar which connects the eaid lateral conducting elements, one edge of which corresponds to the eaid ignition edge, and the length of which, measured along the Ox axis, is greater by a value ΔL_a for |y| lying between 0 and y₁ on either side of the Ox axis than a value L_a of this length for |y| lying between y₁ and d_{e-p}(x_{ab})/2 on either side of the Ox axis.
- 29. (Currently Amended) Plasma display panel according to Claim 28, wherein, if W_a is the width of the said ignition bar measured along the Oy axis,

- if
$$L_a < 2W_{e-p0}$$
, $\Delta L_a > 2W_{e-p0}$ - L_a

- if
$$L_a \ge 2W_{e-00}$$
, $\Delta L_a > 0.2L_a$.

30. (Currently Amended) Plasma display panel comprising a coplanar electrode plate according to claim 1 and an address electrode plate, defining discharge regions between them and being separated by a distance H_s, the coplanar electrode plate comprising:

at least a first and a second array of coplanar electrodes that are coated with a dielectric layer and the general directions of which are parallel, where each electrode of the first array is adjacent to an electrode of the second array, is paired with it and supply a set of discharge regions;

for each discharge region, at least two electrode elements that have a common longitudinal axis of symmetry Ox, each connected to an electrode of a pair,

the address electrode plate comprising:

an array of address electrodes that are coated with a dielectric layer and are oriented and positioned so that each crosses a pair of electrodes of the coplanar electrode plate in one of the said discharge regions;

an array of parallel barrier ribs, each being placed between two adjacent address electrodes at a distance W_c from two other adjacent barrier ribs, and for each electrode element of each discharge region, the point O on the Ox axis being located on what is called an ignition edge of the electrode element facing the other electrode element of the discharge region and the Ox axis being directed towards what is called an end-of-discharge edge that delimits the electrode element on the opposite side from the discharge edge and is positioned at $x = x_{cd}$ on the Ox axis,

these electrode plates defining between them the said discharge regions and being separated by a distance H_e,

wherein the eaid dielectric layer has a homogeneous composition and a constant thickness above the eaid electrode element, at least for any x such that $x_{ab} < x < x_{bc}$, and wherein in that, if W_{σ} is the distance between two adjacent barrier ribs, for each discharge region of the said panel and for each electrode element of this <u>discharge</u> region, the said electrode element (4) is subdivided into two lateral conducting elements of constant width $W_{\sigma \to 0}$, the distance $d_{\sigma \to 0}$ between the edges of which that are turned

PF020073

towards each other is constant and greater than W_c , which elements are symmetrical with respect to the Ox axis and separate in the region where x lies within the $[x_{ab},x_{bc}]$ interval, and in that the said electrode element comprises:

a transverse bar called an ignition bar, the width of which is greater than or equal to W_c , the length of which measured along the Ox axis is L_a and one edge of which corresponds to the eaid ignition edge;

a transverse bar called a discharge stabilization bar, the width of which is greater than or equal to W_c , the length of which, measured along the Ox axis, is L_s , and one edge of which corresponds to the said end-of-discharge edge; and

at least one intermediate transverse bar, the width of which is greater than or equal to W_c and the position of which, along the Ox axis, lies entirely within the $[x_{ab},x_{bc}]$ interval over its entire length L_b ; and

in that wherein $L_b \le L_a < L_c$.

- 31. (Currently Amended) Display panel according to Claim 30, wherein, with one of the edges of the intermediate transverse bar being at a distance d₁ from the eaid discharge stabilization bar and the other edge being at a distance d₂ from the eaid ignition bar, then d₂/2 < d₁ < d₂.
 - 32. (Currently Amended) Display panel according to Claim 31, wherein:

$$3\times\max(L_a,L_b) < L_s \ge \le 5\times\max(L_a,L_b)$$
.

33. (Currently Amended) Plasma display panel according to claim 5, wherein it comprises the said coplanar electrode plate and an address electrode plate defining between them the said discharge regions and in that wherein, for each discharge region and for each electrode element, if W_{e-ab} is the width of the said electrode element, measured along the Ox axis at the position $x = x_{ab}$ at the start of the said $[x_{ab}, x_{bc}]$ interval, the said electrode element preferably comprises a transverse bar called an ignition bar, one

edge of which corresponds to the said ignition edge and the length of which, measured along the Ox axis, is such that:

$$W_{e-ab} \le L_a < 80 \mu m$$
.

34. (Currently Amended) Plasma display panel according to Claim 33, comprising an array of parallel barrier ribs placed between the said electrode plates at a distance W_c from one another, perpendicular to the general direction of the said coplanar electrodes, characterized in that, if Oy is an axis transverse to the Ox axis lying along the ignition edge and if W_a is the width of the said transverse ignition bar, measured along the Oy axis, then:

$$W_c - 60 \mu m < W_a \le W_c - 100 \mu m$$
.

35. (Currently Amended) Plasma display panel according to Claim 33, comprising an array of parallel barrier ribs placed between the said electrode plates at a distance W_c from one another, perpendicular to the general direction of the said coplanar electrodes, characterized in that, if Oy is an axis transverse to the Ox axis lying along the ignition edge, if W_a is the width of the said transverse ignition bar measured along the Oy axis and if W_{a-min} corresponds to the width beyond which the said barrier ribs cause a substantial reduction in the surface potential of the dielectric layer above the said element, the said transverse ignition bar comprises:

a central region $Z_{a \cdot c}$ for which, at any point $|y| \le W_{a \cdot min}/2$, the distance, along the Ox axis, between the ignition edges of the two electrode elements of the said discharge region is constant and equal to g_c ; and

two lateral regions $Z_{a\text{-p1}}$, $Z_{a\text{-p2}}$ on either side of the central region $Z_{a\text{-c}}$, for which, at any point $|y| > W_{a\text{-min}}/2$, the distance, along the Ox axis, between the ignition edges of the two electrode elements of the said discharge region decreases continuously from the value g_c .

36. (Previously Presented) Plasma display panel according to claim 5, wherein it comprises supply means suitable for generating, between the

١.

Serial No.: 10/518,567

PF020073

coplanar electrodes, various pairs of series of voltage pulses called sustain pulses, each with a constant plateau.

- 37. (New) Plasma display panel according to claim 9, wherein, for each discharge region and for each electrode element, if W_{e-ab} is the width of the electrode element, measured along the Ox axis at the position $x=x_{ab}$ at the start of the $[x_{ab},x_{bc}]$ interval, the electrode element preferably comprises a transverse bar called an ignition bar, one edge of which corresponds to the ignition edge and the length of which, measured along the Ox axis, is such that: $W_{e-ab} \le L_a < 80 \ \mu m$.
- 38. (New) Plasma display panel according to Claim 37, comprising an array of parallel barrier ribs placed between the electrode plates at a distance W_c from one another, perpendicular to the general direction of the coplanar electrodes, wherein, if Oy is an axis transverse to the Ox axis lying along the ignition edge and if W_a is the width of the transverse ignition bar, measured along the Oy axis, then:

$$W_c$$
 - 60 $\mu m < W_a \le W_c$ - 100 μm .

- 39. (New) Plasma display panel according to Claim 37, comprising an array of parallel barrier ribs placed between the electrode plates at a distance W_c from one another, perpendicular to the general direction of the coplanar electrodes, wherein, if Oy is an axis transverse to the Ox axis lying along the ignition edge, if W_a is the width of the transverse ignition bar measured along the Oy axis and if W_{a-min} corresponds to the width beyond which the barrier ribs cause a substantial reduction in the surface potential of the dielectric layer above the element, the transverse ignition bar comprises:
- a central region Z_{a-c} for which, at any point $|y| \le W_{a-min}/2$, the distance, along the Ox axis, between the ignition edges of the two electrode elements of the discharge region is constant and equal to g_c ; and

PF020073

two lateral regions $Z_{a\text{-p1}}$, $Z_{a\text{-p2}}$ on either side of the central region $Z_{a\text{-c}}$, for which, at any point $\|y\| > W_{a\text{-min}}/2$, the distance, along the Ox axis, between the ignition edges of the two electrode elements of the discharge region decreases continuously from the value g_c .

- 40. (New) Plasma display panel according to claim 9, wherein it comprises supply means suitable for generating, between the coplanar electrodes, various pairs of series of voltage pulses called sustain pulses, each with a constant plateau.
- 41. (New) Plasma display panel according to claim 10, wherein, for each discharge region and for each electrode element, if W_{e-ab} is the width of the electrode element, measured along the Ox axis at the position $x = x_{ab}$ at the start of the $[x_{ab}, x_{bc}]$ interval, the electrode element preferably comprises a transverse bar called an ignition bar, one edge of which corresponds to the ignition edge and the length of which, measured along the Ox axis, is such that: $W_{e-ab} \le L_a < 80 \ \mu m$.
- 42. (New) Plasma display panel according to Claim 41, comprising an array of parallel barrier ribs placed between the electrode plates at a distance W_c from one another, perpendicular to the general direction of the coplanar electrodes, wherein, if Oy is an axis transverse to the Ox axis lying along the ignition edge and if W_a is the width of the transverse ignition bar, measured along the Oy axis, then:

$$W_c - 60 \mu m < W_a \le W_c - 100 \mu m$$
.

43. (New) Plasma display panel according to Claim 41, comprising an array of parallel barrier ribs placed between the electrode plates at a distance W_c from one another, perpendicular to the general direction of the coplanar electrodes, wherein, if Oy is an axis transverse to the Ox axis lying along the ignition edge, if W_a is the width of the transverse ignition bar

PF020073

Serial No.: 10/518,567

measured along the Oy axis and if W_{a-min} corresponds to the width beyond which the barrier ribs cause a substantial reduction in the surface potential of the dielectric layer above the element, the transverse ignition bar comprises:

a central region $Z_{a\text{-}c}$ for which, at any point $|y| \leq W_{a\text{-min}}/2$, the distance, along the Ox axis, between the ignition edges of the two electrode elements of the discharge region is constant and equal to g_c ; and

two lateral regions $Z_{a\text{-p1}}$, $Z_{a\text{-p2}}$ on either side of the central region $Z_{a\text{-c}}$, for which, at any point $\|y\| > W_{a\text{-min}}/2$, the distance, along the Ox axis, between the ignition edges of the two electrode elements of the discharge region decreases continuously from the value g_c .

- 44. New) Plasma display panel according to claim 10, wherein it comprises supply means suitable for generating, between the coplanar electrodes, various pairs of series of voltage pulses called sustain pulses, each with a constant plateau.
- 45. (New) Plasma display panel according to claim 26, wherein, for each discharge region and for each electrode element, if W_{e-ab} is the width of the electrode element, measured along the Ox axis at the position $x = x_{ab}$ at the start of the $[x_{ab}, x_{bc}]$ interval, the electrode element preferably comprises a transverse bar called an ignition bar, one edge of which corresponds to the ignition edge and the length of which, measured along the Ox axis, is such that: $W_{e-ab} \le L_a < 80 \ \mu m$.
- 46. (New) Plasma display panel according to Claim 45, comprising an array of parallel barrier ribs placed between the electrode plates at a distance W_c from one another, perpendicular to the general direction of the coplanar electrodes, wherein, if Oy is an axis transverse to the Ox axis lying along the ignition edge and if W_a is the width of the transverse ignition bar, measured along the Oy axis, then:

$$W_c - 60 \mu m < W_a \le W_c - 100 \mu m$$
.

PF020073

47. (New) Plasma display panel according to Claim 45, comprising an array of parallel barrier ribs placed between the electrode plates at a distance W_c from one another, perpendicular to the general direction of the coplanar electrodes, wherein, if Oy is an axis transverse to the Ox axis lying along the ignition edge, if W_a is the width of the transverse ignition bar measured along the Oy axis and if W_{a-min} corresponds to the width beyond which the barrier ribs cause a substantial reduction in the surface potential of the dielectric layer above the element, the transverse ignition bar comprises:

a central region Z_{a-c} for which, at any point $\|y\| \le W_{a-min}/2$, the distance, along the Ox axis, between the ignition edges of the two electrode elements of the discharge region is constant and equal to g_c ; and

two lateral regions $Z_{a\text{-p1}}$, $Z_{a\text{-p2}}$ on either side of the central region $Z_{a\text{-c}}$, for which, at any point $|y| > W_{a\text{-min}}/2$, the distance, along the Ox axis, between the ignition edges of the two electrode elements of the discharge region decreases continuously from the value g_c .

- 48. (New) Plasma display panel according to claim 26, wherein it comprises supply means suitable for generating, between the coplanar electrodes, various pairs of series of voltage pulses called sustain pulses, each with a constant plateau.
- 49. (New) Plasma display panel according to claim 27, wherein, for each discharge region and for each electrode element, if W_{e-ab} is the width of the electrode element, measured along the Ox axis at the position $x=x_{ab}$ at the start of the $[x_{ab},x_{bc}]$ interval, the electrode element preferably comprises a transverse bar called an ignition bar, one edge of which corresponds to the ignition edge and the length of which, measured along the Ox axis, is such that: $W_{e-ab} \le L_a < 80 \ \mu m$.
- 50. (New) Plasma display panel according to Claim 49, comprising an array of parallel barrier ribs placed between the electrode plates at a distance W_c from one another, perpendicular to the general direction of the

PF020073

coplanar electrodes, wherein, if Oy is an axis transverse to the Ox axis lying along the ignition edge and if W_a is the width of the transverse ignition bar, measured along the Oy axis, then:

$$W_c$$
 - 60 $\mu m < W_a \le W_c$ - 100 μm .

51. (New) Plasma display panel according to Claim 49, comprising an array of parallel barrier ribs placed between the electrode plates at a distance W_c from one another, perpendicular to the general direction of the coplanar electrodes, wherein, if Oy is an axis transverse to the Ox axis lying along the ignition edge, if W_a is the width of the transverse ignition bar measured along the Oy axis and if W_{a-mln} corresponds to the width beyond which the barrier ribs cause a substantial reduction in the surface potential of the dielectric layer above the element, the transverse ignition bar comprises:

a central region Z_{a-c} for which, at any point $\|y\| \le W_{a-min}/2$, the distance, along the Ox axis, between the ignition edges of the two electrode elements of the discharge region is constant and equal to g_c ; and

two lateral regions $Z_{a\text{-p1}}$, $Z_{a\text{-p2}}$ on either side of the central region $Z_{a\text{-c}}$, for which, at any point $|y| > W_{a\text{-min}}/2$, the distance, along the Ox axis, between the ignition edges of the two electrode elements of the discharge region decreases continuously from the value g_c .

- 52. (New) Plasma display panel according to claim 27, wherein it comprises supply means suitable for generating, between the coplanar electrodes, various pairs of series of voltage pulses called sustain pulses, each with a constant plateau.
- 53. (New) Plasma display panel according to claim 30, wherein, for each discharge region and for each electrode element, if W_{e-ab} is the width of the electrode element, measured along the Ox axis at the position $x = x_{ab}$ at the start of the $[x_{ab}, x_{bc}]$ interval, the electrode element preferably comprises a transverse bar called an ignition bar, one edge of which corresponds to the

PF020073

Serial No.: 10/518,567

ignition edge and the length of which, measured along the Ox axis, is such that: $W_{e-ab} \le L_a < 80~\mu m$.

54. (New) Plasma display panel according to Claim 53, comprising an array of parallel barrier ribs placed between the electrode plates at a distance W_c from one another, perpendicular to the general direction of the coplanar electrodes, wherein, if Oy is an axis transverse to the Ox axis lying along the ignition edge and if W_a is the width of the transverse ignition bar, measured along the Oy axis, then:

$$W_c - 60 \mu m < W_a \le W_c - 100 \mu m$$
.

55. (New) Plasma display panel according to Claim 53, comprising an array of parallel barrier ribs placed between the electrode plates at a distance W_c from one another, perpendicular to the general direction of the coplanar electrodes, wherein, if Oy is an axis transverse to the Ox axis lying along the ignition edge, if W_a is the width of the transverse ignition bar measured along the Oy axis and if W_{a-min} corresponds to the width beyond which the barrier ribs cause a substantial reduction in the surface potential of the dielectric layer above the element, the transverse ignition bar comprises:

a central region Z_{a-c} for which, at any point $\|y\| \le W_{a-min}/2$, the distance, along the Ox axis, between the ignition edges of the two electrode elements of the discharge region is constant and equal to g_c ; and

two lateral regions $Z_{a\text{-p1}}$, $Z_{a\text{-p2}}$ on either side of the central region $Z_{a\text{-c}}$, for which, at any point $|y| > W_{a\text{-min}}/2$, the distance, along the Ox axis, between the ignition edges of the two electrode elements of the discharge region decreases continuously from the value g_c .

56. (New) Plasma display panel according to claim 30, wherein it comprises supply means suitable for generating, between the coplanar electrodes, various pairs of series of voltage pulses called sustain pulses, each with a constant plateau.